Number Sense Exam 098, 10/17/2020

(1) $\frac{4}{9} \times 1\frac{1}{8} =$ _____

(2) $(13.14) \div (.6) =$ _____ (decimal)

(3) $3\frac{1}{5} + 1\frac{3}{4} =$ _____ (mixed number)

(4) The negative reciprocal of 13^{-1} is _____

(5) $15^2 =$ _____

(6) $3 \times 12 + 3 \times 13 =$ _____

(7) $2016 - 738 =$ _____

(8) $6324 + 1836 =$ _____

(9) $125 \times 5 - 12 =$ _____

*(10) $819 + 198 + 981 + 189 =$ _____

(11) $-2 - (-3) + (-4) - 5 =$ _____

(12) $-9 - (-7) - (-5) - 3 =$ _____

(13) The mean of $34, 41$, and 51 is _____

(14) The number of prime numbers greater than 50 and less than 70 is _____

(15) $25 \times 18 =$ _____

(16) 14 is _____ % of 112

(17) $11 \times 504 =$ _____

(18) $2\frac{1}{2}$ bushels is equivalent to _____ pecks

(19) $29^2 =$ _____

*(20) $\sqrt{3846} \times 68 =$ _____

(21) $\frac{2}{3} + \frac{5}{6} + \frac{8}{9} =$ _____ (mixed number)

(22) $314 \times 17 =$ _____

(23) $8\frac{1}{8} \times 16\frac{1}{8} =$ _____ (mixed number)

(24) $5^4 =$ _____

(25) The 3rd hexagonal number is _____

(26) $21^2 + 63^2 =$ _____

(27) The median of $34, 28, 33, 21, 28, 31, 30$ is _____

(28) 90 has _____ positive integral divisors

(29) Let $P = 5$, $Q = 3$, and $R = 2$. Find PQ^r. _____

*(30) $86013 \div 216 =$ _____

(31) $0.3777\ldots =$ _____ (proper fraction)

(32) The $6\frac{1}{4}\%$ sales tax on an item is \$0.31. What is the price of the item including sales tax? \$ _____

(33) $3 + 6 + 9 + 15 + 24 \ldots + 102 + 165 =$ _____

(34) The sum of the prime integers between 11 and 20 is _____

(35) The slope of the line perpendicular to the line $4x - y = 9$ is _____

(36) If $A = 4, B = 3$ and $C = 2$, then $BC^A - AC^B =$ _____

(37) $93 \times 97 =$ _____

(38) The set $\{p, o, w, e, r\}$ has _____ proper subsets

(39) 2 cubic feet equals _____ cubic inches

*(40) $(375 \times 79)^2 \div (40 \times 124) =$ _____

(41) $63 \times 67 + 13 =$ _____

(42) Find the units digit of 4^{11}. _____

(43) $32 \times 22 =$ _____

(44) $\frac{1}{4}(28^2 - 4^2) =$ _____

(45) If $4^{(x+2)} = 48$, then $4^x =$ _____

(46) If $2.5^x = 360$, then $2.5^{(x-1)} =$ _____

(47) Which of the following is an odious number: $3, 5$, or 7? _____

(48) If $3^{x-2} = 27$, then $x =$ _____

(49) Let $a^3 \div a^4 \div a^5 = a^k$, where $a > 1$. $k =$ _____

*(50) $\sqrt{48} \times \sqrt{38} \times \sqrt{108} =$ _____

(51) The coefficient of the third term of the expansion of $(x + 3y)^5$ is _____

(52) $(2 - 5\mathrm{i})(3 + 2\mathrm{i}) = a + b\mathrm{i}$. Find $a + b$. _____

(53) The first 3 digits of the decimal of $\frac{42}{99}$ is 0. _____

(54) $0.212121\ldots \div .090909\ldots =$ _____

(55) Given: $4, 6, 10, 14, 22, 26, 34, k, 46, \ldots$, $k =$ _____

(56) $89 \times 97 =$ _____

(57) The simplified coefficient of the x^2y term in the expansion of $(x - 3y)^3$ is _____

(58) ${}_5\mathrm{C}_3 + {}_4\mathrm{C}_2 =$ _____

(59) The first 4 digits of the decimal of $\frac{43}{90}$ is 0. _____

*(60) $\left(\frac{\sqrt{5}+1}{2}\right) \times 10^3 =$ _____

(61) The odds of winning a medal is $\frac{3}{16}$. The probability of not winning a medal is _____

(62) $\log_4 27 \div \log_4 3 =$ _____

(63) Let $18^8 \div 36 = (2^x)(9^y)$. Find $x + y$. _____

(64) If $21^4 \div 3 = (3^x)(7^y)$, then $xy =$ _____

(65) $666 \times \frac{2}{37} =$ _____

(66) $(306)^2 =$ _____

(67) If $\log_x 4 + \log_x 4 = 4$, then $x =$ _____

(68) $(\sin 315°)(\cos 315°)(\tan 315°) =$ _____

(69) $\frac{1}{3} + \frac{1}{9} + \frac{1}{27} + \frac{1}{81} + \ldots =$ _____

*(70) $13 \times 14 \times 15 \times 16 =$ _____

(71) How many positive 3-digit odd numbers exist? _____

(72) Change .22 base 4 to a base ten decimal. _____

(73) Change $\frac{9}{16}$ to a base 4 decimal. _____

(74) $666 \times \frac{16}{27} \times \frac{24}{37} =$ _____

(75) Truncate $(2\sqrt{3} + 3\sqrt{2})$ to the nearest whole. ____

(76) $16 \times 625 =$ _____

(77) The first four digits of the decimal for $\frac{3}{4}$ in base-7 is 0. _____ in base-7

(78) $\lim_{x \to 0} \frac{2 - \sqrt{4 + x}}{x} =$ _____

(79) $\int_0^2 (3x + 2)\, dx =$ _____

*(80) $3333 \times 222 \div 66 =$ _____